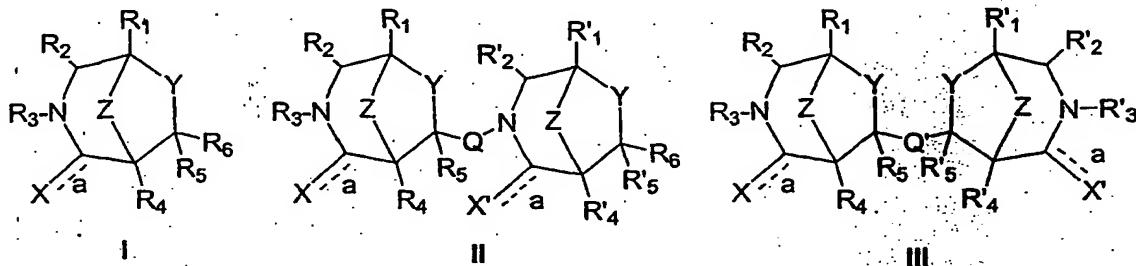


CLAIMS

1. A pharmaceutical composition comprising as active principle at least one among the 3-aza-bicyclo[3.2.1]octane derivatives of general formula (I), or their dimers of general formula (II) and (III), or mixtures thereof



5 wherein:

R₁ and R'₁, equal or different between each other, are selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, cycloalkyl, aryl, heterocycle, arylC₁₋₈alkyl; heterocycleC₁₋₈alkyl, RR'N-C₁₋₈alkyl, RR'N-aryl, FmocNR'-aryl, BocNR'-aryl, CBzNR'-aryl, RO-aryl, R(O)C-aryl, RO(O)C-aryl, RR'N(O)C-aryl; FmocNR'-C₁₋₈alkyl, BocNR'-C₁₋₈alkyl, CbzNR'-C₁₋₈alkyl, FmocNR'-C₁₋₈aryl, BocNR'-C₁₋₈aryl and CbzNR'-C₁₋₈aryl,

10 R₂ and R'₂, equal or different between each other, are selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, cycloalkyl, aryl, arylC₁₋₈alkyl, heterocycleC₁₋₈alkyl, aminoC₁₋₈alkyl, aminoaryl, C₁₋₈alkyloxyaryl, hydroxyaryl, 15 hydroxyC₁₋₈alkyl, carboxyC₁₋₈alkyl, methyloxycarbonylC₁₋₈alkyl, carboxyaryl, carboalkyloxyaryl, alkylcarbamoylaryl and -(side chains of amino acids), or

R₁ and R₂, taken together, and R'₁ and R'₂, taken together, are C₁₋₄alkyl, C₂₋₄ alkenyl, cycloalkyl or benzofused cycloalkyl, to form a bridge of 3, 4, 5, 6 terms,

20 R₃ and R'₃ are selected from the group consisting of H, C₁₋₈alkyl, C₂₋₈alkenyl, C₂₋₈alkynyl, cycloalkyl, aryl, arylC₁₋₈alkyl, heterocycleC₁₋₈alkyl, RR'NC₁₋₈alkyl, RR'Naryl, RO-C₁₋₈alkyl, RO(O)C-C₁₋₈alkyl, R(O)C-C₁₋₈alkyl, RC(O)O-C₁₋₈alkyl, RC(O)N(R)C₁₋₈alkyl, RO-aryl, RO(O)C-aryl, R(O)C-aryl, RC(O)O-aryl, RC(O)N(R)aryl, -CH(amino acid side-chain)CO₂R, -CH(amino acid side-chain)C(O)NR, -CH(CO₂R)- amino acid side-chain, CH(CONRR')- amino acid side-chain, Fmoc, Boc and Cbz,

R_4 , R'_4 R_5 , and R'_5 , equal or different amongst each other, are selected from the group consisting of H, C_{1-8} alkyl, C_{2-8} alchenyl, C_{2-8} alchiny, cycloalkyl, aryl, heterocycle, aryl C_{1-8} alkyl and heterocycle C_{1-8} alkyl,

R_6 is selected from the group consisting of H, C_{1-8} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, cycloalkyl, aryl, aryl C_{1-8} alkyl, heterocycle, heterocycle C_{1-8} alkyl; - $C(O)R$, - $C(O)OR$, - $C(O)NRR'$, CH_2OR , CH_2NRR' , - $C(O)NH-CH(amino acid side-chain)C(O)OR$, $CH_2NR-Fmoc$, $CH_2NR-Boc$ and $CH_2NR-CBz$,

R and R' , equal or different between each other, are selected from the group consisting of H, C_{1-8} alkyl, C_{2-8} alkenyl, C_{2-8} alkynyl, cycloalkyl, aryl, heterocycle,

10 aryl C_{1-8} alkyl; heterocycle C_{1-8} alkyl; protecting group, - $C(O)CH-(amino acid side-chain)-NHT$, - $NH-CH(amino acid side-chain)COOT$ and - $CH(amino acid side-chain)COOT$,

where T is selected from between H and C_{1-8} alkyl;

X and X' , equal or different between each other, are selected from between O and

15 S, when a is a double bond, or

X and X' are both H, when a is a single bond,

Y and Z , equal or different from each other, are selected from the group consisting of O, S, SO, SO_2 and N-R, wherein R is as above defined;

Q is selected from the group consisting of $C=O$, CH_2 , $CO-NH-CH$ (amino acid

20 side-chain)-CO, $CONR(CH_2)_nCO$, $CONR-C_{2-8}$ alkenyl-CO $C(O)O(CH_2)_nCO$, $CH_2OC(O)(CH_2)_nCO$, and $CH_2NRC(O)(CH_2)_nCO$, wherein n is comprised between 2 and 6, and R is as above defined, Q is selected from the group consisting of $C(O)OCH_2$, $C(O)NRCH_2$, $CH_2OC(O)$, $CH_2NRC(O)$, $CONR(CH_2)_nNRCO$, $CONR-C_{2-8}$ alkenyl-NR CO , $C(O)O(CH_2)_nNRCO$, $CONR(CH_2)_nOC(O)$,

25 $CH_2OC(O)(CH_2)_nOC(O)CH_2$, $CH_2NRC(O)(CH_2)_nNRC(O)CH_2$,

$CH_2OC(O)(CH_2)_nNRC(O)CH_2$, $CH_2NRC(O)(CH_2)_nOC(O)CH_2$,

$CH_2NR(CH_2)_nNRCH_2$, $CH_2O(CH_2)_nOCH_2$, $CH_2O(CH_2)_nNRCH_2$, and

$CH_2NR(CH_2)_nOCH_2$, wherein n is comprised between 2 and 6, and R is as above

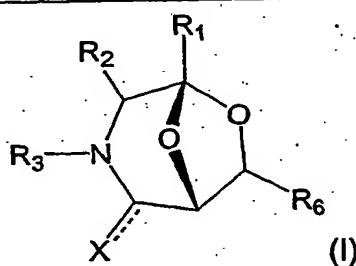
30 defined, and where the groups alkyl, alkenyl, alkynyl, cycloalkyl, aryl and the heterocyclic groups above reported, are possibly substituted.

2. The pharmaceutical composition according to claim 1, wherein in 3-aza-bicyclo[3.2.1]octane derivatives of formula (I) and in their dimers of formula (II) Z is O.

3. The pharmaceutical composition according to claim 1, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, aryl and heterocyclic groups may be substituted with one or more moieties chosen from the group consisting of halogen, cyano, nitro, amino, hydroxy, carboxylic acid, carbonyl and C₁₋₆ alkyl.

4. The pharmaceutical composition according to claim 1, wherein the 3-aza-bicyclo[3.2.1]octane derivatives of formula (I) and their dimers of formula (II) and (III) are selected from the compounds having the following formulas:

10. (III) are selected from the compounds having the following formulas:



Compound	X	R ₁	R ₂	R ₃	R ₆
1	O	H	H	PhCH ₂	(R)-CO ₂ Me
2	O	H	H	PhCH ₂	(S)-CO ₂ Me
3	O	H	H	PhCH ₂	(R)-CONCyclohexyl
4	O	H	H	PhCH ₂	(R)-CONCyclopentyl
5	O	H	(S)-Me	PhCH ₂	(R)-CO ₂ Me
6	O	H	(S)-Me	PhCH ₂	(S)-CO ₂ Me
7	O	H	(R)-Me	PhCH ₂	(R)-CO ₂ Me
8	O	H	(R)-Me	PhCH ₂	(S)-CO ₂ Me
9	O	H	(R)-CH ₂ Ph	PhCH ₂	(S)-CO ₂ Me
10	O	H	(R)-CH ₂ Ph	PhCH ₂	(R)-CO ₂ Me

11	O	H	(S)-CH ₂ Ph	PhCH ₂	(S)-CO ₂ Me
12	O	H	(S)-CH ₂ Ph	PhCH ₂	(R)-CO ₂ Me
13	O	H	(S)-CH ₂ OBn	PhCH ₂	(R)-CO ₂ Me
14	O	H	(S)-CH ₂ OBn	PhCH ₂	(S)-CO ₂ Me
15	O	H	(R)-CH ₂ OBn	PhCH ₂	(R)-CO ₂ Me
16	O	H	(R)-CH ₂ OBn	PhCH ₂	(S)-CO ₂ Me
17	O	H	(S)-CH ₂ OH	PhCH ₂	(R)-CO ₂ Me
18	O	H	(S)-CH ₂ OH	PhCH ₂	(S)-CO ₂ Me
19	O	H	(R)-CH ₂ OH	PhCH ₂	(R)-CO ₂ Me
20	O	H	(R)-CH ₂ OH	PhCH ₂	(S)-CO ₂ Me
21	O	H	=CH ₂	PhCH ₂	(R)-CO ₂ Me
22	O	H	=CH ₂	PhCH ₂	(S)-CO ₂ Me
23	O	H	(R)-CH ₂ OH	PhCH ₂	(S)-CO ₂ Me
24	S	H	H	PhCH ₂	(R)-CO ₂ Me
25	S	H	H	PhCH ₂	(R)-CONH(CH ₂) ₂ NH ₂
26	S	H	H	PhCH ₂	(R)-CONH(CH ₂) ₂ OH
27	O	Ph	H	PhCH ₂	(R)-CO ₂ Me
28	O	Ph	H	PhCH ₂	(S)-CO ₂ Me
29	O	Ph	H	CH(Ph) ₂	(R)-CO ₂ Me
30	O	Ph	H	CH(Ph) ₂	(S)-CO ₂ Me
31	O	NO ₂ -Ph	H	Ph	(S)-CO ₂ Me
32	H	H	H	H	(R)-CO ₂ H
33	H	H	H	H	(S)-CO ₂ H
34	H	H	H	H	(R)-CO ₂ Me
35	H	H	H	H	(S)-CO ₂ Me
36	H	H	H	PhCH ₂	(R)-CO ₂ H
37	H	H	H	PhCH ₂	(S)-CO ₂ H
38	H	H	H	Fmoc	(R)-CO ₂ H
39	H	H	H	Fmoc	(S)-CO ₂ H
40	H	H	H	PhCH ₂	(R)-CO ₂ Me

41	H	H	H	PhCH ₂	(S) -CO ₂ Me
42	H	H	H	Boc	(R) -CO ₂ Me
43	H	H	H	Boc	(S) -CO ₂ Me
44	H	H	H	Fmoc	(R) -CO ₂ Me
45	H	H	H	Fmoc	(S) -CO ₂ Me
46	H	H	H	H	(R) -CONHMe
47	H	H	H	H	(S) -CONHMe
48	H	H	H	Ac	(R) -CONHMe
49	H	H	H	Ac	(S) -CONHMe
50	H	H	H	PhCH ₂	(R) -CONHMe
51	H	H	H	PhCH ₂	(S) -CONHMe
52	H	H	H	Fmoc	(R) -CONHMe
53	H	H	H	Fmoc	(S) -CONHMe
54	H	H	H	PhCH ₂	(R)-CON 
55	H	H	H	PhCH ₂	(R) -CONH 
56	H	H	H	PhCH ₂	(R) -CON 
57	H	H	H	PhCH ₂	(R)-CONH(CH ₂) ₂ OH
58	H	H	H	H	(R) -CH ₂ OH
59	H	H	H	H	(S) -CH ₂ OH
60	H	H	H	Fmoc	(S) -CH ₂ OH
61	H	H	H	Fmoc	(R) -CH ₂ OH
62	H	H	H	Boc	(R) -CH ₂ OH
63	H	H	H	Boc	(S) -CH ₂ OH
64	H	H	H	PhCH ₂	(R) -CH ₂ OH
65	H	H	H	PhCH ₂	(S) -CH ₂ OH

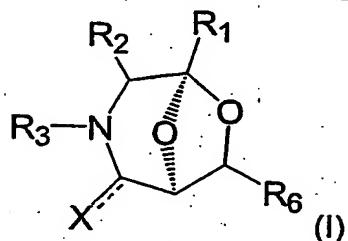
66	H	H	(S) -CH ₂ OBn	PhCH ₂	(R) -CO ₂ Me
67	H	H	(S) -CH ₂ OBn	PhCH ₂	(S) -CO ₂ Me
68	H	H	(R) -CH ₂ OBn	PhCH ₂	(R) -CO ₂ Me
69	H	H	(R) -CH ₂ OBn	PhCH ₂	(S) -CO ₂ Me
70	H	H	(S) -CH ₂ OBn	PhCH ₂	(R) -CH ₂ OH
71	H	H	(S) -CH ₂ OBn	PhCH ₂	(S) -CH ₂ OH
72	H	H	(R) -CH ₂ OBn	PhCH ₂	(R) -CH ₂ OH
73	H	H	(R) -CH ₂ OBn	PhCH ₂	(S) -CH ₂ OH
75	H	H	(S) -COOH	Fmoc	(R) -CO ₂ Me
76	H	H	(S) -COOH	Fmoc	(S) -CO ₂ Me
77	H	H	(R) -COOH	Fmoc	(R) -CO ₂ Me
78	H	H	(R) -COOH	Fmoc	(S) -CO ₂ Me
79	H	H	(S) -CH ₂ OBn	Fmoc	(R) -CO ₂ Me
80	H	H	(S) -CH ₂ OBn	Fmoc	(S) -CO ₂ Me
81	H	H	(R) -CH ₂ OBn	Fmoc	(R) -CO ₂ Me
82	H	H	(R) -CH ₂ OBn	Fmoc	(S) -CO ₂ Me
83	H	H	(S) -CH ₂ OBn	H	(R) -CO ₂ Me
84	H	H	(S) -CH ₂ OBn	H	(S) -CO ₂ Me
85	H	H	(R) -CH ₂ OBn	H	(R) -CO ₂ Me
86	H	H	(R) -CH ₂ OBn	H	(S) -CO ₂ Me
87	H	H	(S) -CH ₂ OH	H	(R) -CO ₂ Me
88	H	H	(S) -CH ₂ OH	H	(S) -CO ₂ Me
89	H	H	(R) -CH ₂ OH	H	(R) -CO ₂ Me
90	H	H	(R) -CH ₂ OH	H	(S) -CO ₂ Me
91	H	H	(S) -CH ₂ OH	Fmoc	(R) -CO ₂ Me
92	H	H	(S) -CH ₂ OH	Fmoc	(S) -CO ₂ Me
93	H	H	(R) -CH ₂ OH	Fmoc	(R) -CO ₂ Me
94	H	H	(R) -CH ₂ OH	Fmoc	(S) -CO ₂ Me
95	H	H	(S) -CH ₂ OH	Fmoc	(R) -CO ₂ Me
96	H	H	(S) -CH ₂ OH	Fmoc	(S) -CO ₂ Me
97	H	H	(R) -CH ₂ OH	Fmoc	(R) -CO ₂ Me

98	H	H	(R) -CH ₂ OH	Fmoc	(S) -CO ₂ Me
99	H	H	(S) -CH ₂ OH	PhCH ₂	(S) -CO ₂ Me
100	H	H	(R) -CH ₂ OH	PhCH ₂	(R) -CO ₂ Me
101	H	H	(R) -CH ₂ OH	PhCH ₂	(R) -CO ₂ Me
102	H	H	(R) -CH ₂ OH	PhCH ₂	(S) -CO ₂ Me
103	H	H	(S) -CH ₂ OH	Fmoc	(R) -CH ₂ OH
104	H	H	(S) -CH ₂ OH	Fmoc	(S) -CH ₂ OH
105	H	H	(R) -CH ₂ OH	Fmoc	(R) -CH ₂ OH
106	H	H	(R) -CH ₂ OH	Fmoc	(S) -CH ₂ OH
107	H	H	(S) -CH ₂ OH	PhCH ₂	(R) -CH ₂ OH
108	H	H	(S) -CH ₂ OH	PhCH ₂	(S) -CH ₂ OH
109	H	H	(R) -CH ₂ OH	PhCH ₂	(R) -CH ₂ OH
110	H	H	(R) -CH ₂ OH	PhCH ₂	(S) -CH ₂ OH
111	H	H	=CH ₂	PhCH ₂	(R) -CO ₂ Me
112	H	H	=CH ₂	PhCH ₂	(S) -CO ₂ Me
113	H	H	=CH ₂	PhCH ₂	(R) -CH ₂ OH
114	H	H	=CH ₂	PhCH ₂	(S) -CH ₂ OH
115	H	H	(S)-CH ₂ CH(Me) ₂	Fmoc	(R) -CH ₂ OH
116	H	H	(S)-CH ₂ CH(Me) ₂	PhCH ₂	(S) -CH ₂ OH
117	H	H	(S)-CH ₂ CH(Me) ₂	H	(R) -CH ₂ OH
118	H	Ph	H	H	(R) -CO ₂ Me
119	H	Ph	H	Fmoc	(R) -CO ₂ Me
120	H	Ph	H	PhCH ₂	(R) -CO ₂ Me
121	H	Ph	H	CH(Ph) ₂	(R) -CO ₂ Me
122	H	Ph	H	H	(S) -CO ₂ Me
123	H	Ph	H	Fmoc	(S) -CO ₂ Me
124	H	Ph	H	PhCH ₂	(S) -CO ₂ Me
125	H	Ph	H	CH(Ph) ₂	(S) -CO ₂ Me
126	H	p-NH ₂ -C ₆ H ₄	H	Ph	(S)-COOMe
127	H	p-NH ₂ -C ₆ H ₄	H	Ph	(S)-COOH
128	H	p-NH ₂ -C ₆ H ₄	H	Ph	(S)-CONHCH ₂ CO ₂ Me

129	H	p-NH- (Asp(O ^t Bu)- NH ₂) C ₆ H ₄	H	Ph	(S)-CO ₂ Me
130	H	p-NH- (Asp(O ^t Bu)N H ₂)-C ₆ H ₄	H	Ph	(S)-CO ₂ H
131	H	p-NH- (Asp(O ^t Bu)- NH ₂) C ₆ H ₄	H	Ph	(S)-CONH- Lys(NHBoc)-OMe
132	H	p-NH- (Asp(OH)- NH ₂)-C ₆ H ₄	H	Ph	(S)-CONH-Lys-OMe
133	H	p-NO ₂ -C ₆ H ₄	H	Ph	(S)-COOH
134	H	p-NO ₂ -C ₆ H ₄	H	Ph	(S)-COOMe
135	H	p-NO ₂ -C ₆ H ₄	H	Ph	(S)-CONHCH ₂ CO ₂ Me
136	H	Ph	H	H	(R)-CH ₂ OH
137	H	Ph	H	Fmoc	(R)-CH ₂ OH
138	H	Ph	H	PhCH ₂	(R)-CH ₂ OH
139	H	Ph	H	CH(Ph) ₂	(R)-CH ₂ OH
140	H	Ph	H	H	(S)-CH ₂ OH
141	H	Ph	H	Fmoc	(S)-CH ₂ OH
142	H	Ph	H	PhCH ₂	(S)-CH ₂ OH
143	H	Ph	H	CH(Ph) ₂	(S)-CH ₂ OH
144	H	H	(S)-Me	Fmoc	(R)-CO ₂ H
145	H	H	(S)-Me	Fmoc	(S)-CO ₂ H
146	H	H	(R)-Me	Fmoc	(R)-CO ₂ H
147	H	H	(R)-Me	Fmoc	(S)-CO ₂ H
148	H	H	(S)-Me	Fmoc	(R)-CO ₂ Me
149	H	H	(S)-Me	Fmoc	(S)-CO ₂ Me
150	H	H	(R)-Me	Fmoc	(R)-CO ₂ Me
151	H	H	(R)-Me	Fmoc	(S)-CO ₂ Me

152	H	H	(S) -Me	PhCH ₂	(R) -CO ₂ Me
153	H	H	(S) -Me	PhCH ₂	(S) -CO ₂ Me
154	H	H	(R) -Me	PhCH ₂	(R) -CO ₂ Me
155	H	H	(R) -Me	PhCH ₂	(S) -CO ₂ Me
156	H	H	(S) -Me	Fmoc	(R) -CH ₂ OH
157	H	H	(S) -Me	Fmoc	(S) -CH ₂ OH
158	H	H	(R) -Me	Fmoc	(R) -CH ₂ OH
159	H	H	(R) -Me	Fmoc	(S) -CH ₂ OH
160	H	H	(S) -Me	PhCH ₂	(R) -CH ₂ OH
161	H	H	(S) -Me	PhCH ₂	(S) -CH ₂ OH
162	H	H	(R) -Me	PhCH ₂	(R) -CH ₂ OH
163	H	H	(R) -Me	PhCH ₂	(S) -CH ₂ OH
164	H	H	(S) -PhCH ₂	Fmoc	(R) -CO ₂ H
165	H	H	(S) -PhCH ₂	Fmoc	(S) -CO ₂ H
166	H	H	(R) -PhCH ₂	Fmoc	(R) -CO ₂ H
167	H	H	(R) -PhCH ₂	Fmoc	(S) -CO ₂ H
168	H	H	(S) -PhCH ₂	Fmoc	(R) -CO ₂ Me
169	H	H	(S) -PhCH ₂	Fmoc	(S) -CO ₂ Me
170	H	H	(R) -PhCH ₂	Fmoc	(R) -CO ₂ Me
171	H	H	(R) -PhCH ₂	Fmoc	(S) -CO ₂ Me
172	H	H	(S) -PhCH ₂	PhCH ₂	(R) -CO ₂ Me
173	H	H	(S) -PhCH ₂	PhCH ₂	(S) -CO ₂ Me
174	H	H	(R) -PhCH ₂	PhCH ₂	(R) -CO ₂ Me
175	H	H	(R) -PhCH ₂	PhCH ₂	(S) -CO ₂ Me
176	H	H	(R) -PhCH ₂	H	(R) -CO ₂ Me
177	H	H	(R) -PhCH ₂	H	(S) -CO ₂ Me
178	H	H	(S) -PhCH ₂	H	(R) -CO ₂ Me
179	H	H	(S) -PhCH ₂	H	(S) -CO ₂ Me
180	H	H	(S) -PhCH ₂	Fmoc	(R) -CH ₂ OH
181	H	H	(S) -PhCH ₂	Fmoc	(S) -CH ₂ OH
182	H	H	(R) -PhCH ₂	Fmoc	(R) -CH ₂ OH

183	H	H	(R)-PhCH ₂	Fmoc	(S)-CH ₂ OH
184	H	H	(S)-PhCH ₂	PhCH ₂	(R)-CH ₂ OH
185	H	H	(S)-PhCH ₂	PhCH ₂	(S)-CH ₂ OH
186	H	H	(R)-PhCH ₂	PhCH ₂	(R)-CH ₂ OH
187	H	H	(R)-PhCH ₂	PhCH ₂	(S)-CH ₂ OH
188	H	H	(S)-PhCH ₂	PhCH ₂	(R)-COOH
189	O	p-NO ₂ Ph	H	Ph	CONH(CH ₂) ₆ NH ₂



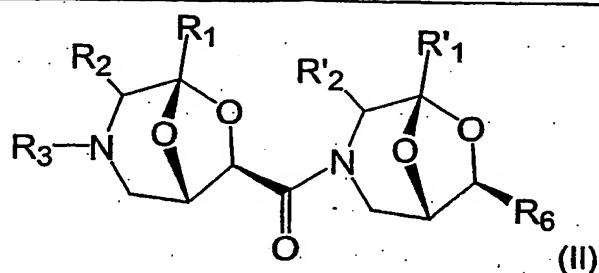
Compound	X	R ₁	R ₂	R ₃	R ₆
190	O	H	H	PhCH ₂	(R)-CO ₂ Me
191	O	H	H	PhCH ₂	(S)-CO ₂ Me
192	O	H	(S)-Me	PhCH ₂	(R)-CO ₂ Me
193	O	H	(S)-Me	PhCH ₂	(S)-CO ₂ Me
194	O	H	(R)-Me	PhCH ₂	(R)-CO ₂ Me
195	O	H	(R)-Me	PhCH ₂	(S)-CO ₂ Me
196	O	H	(S)-PhCH ₂	PhCH ₂	(R)-CO ₂ Me
197	O	H	(S)-PhCH ₂	PhCH ₂	(S)-CO ₂ Me
198	O	H	(R)-PhCH ₂	PhCH ₂	(R)-CO ₂ Me
199	O	H	(R)-PhCH ₂	PhCH ₂	(S)-CO ₂ Me
200	O	H	(S)-CH ₂ CH(Me) ₂	PhCH ₂	(R)-CO ₂ Me
201	O	H	(S)-CH ₂ CH(Me) ₂	PhCH ₂	(S)-CO ₂ Me
202	O	H	(R)-CH ₂ CH(Me) ₂	PhCH ₂	(R)-CO ₂ Me
203	O	H	(R)-CH ₂ CH(Me) ₂	PhCH ₂	(S)-CO ₂ Me
204	O	H	H	PhCH ₂	(R)-CONHMe
205	O	H	H	PhCH ₂	(S)-CONHMe
206	O	H	(S)-Me	PhCH ₂	(R)-CONHMe

207	O	H	(S)-Me	PhCH ₂	(S)-CONHMe
208	O	H	(R)-Me	PhCH ₂	(R)-CONHMe
209	O	H	(R)-Me	PhCH ₂	(S)-CONHMe
210	O	H	(S)-PhCH ₂	PhCH ₂	(R)-CONHMe
211	O	H	(S)-PhCH ₂	PhCH ₂	(S)-CONHMe
212	O	H	(R)-PhCH ₂	PhCH ₂	(R)-CONHMe
213	O	H	(R)-PhCH ₂	PhCH ₂	(S)-CONHMe
214	O	H	(S)-CH ₂ CH(Me) ₂	PhCH ₂	(R)-CONHMe
215	O	H	(S)-CH ₂ CH(Me) ₂	PhCH ₂	(S)-CONHMe
216	O	H	(R)-CH ₂ CH(Me) ₂	PhCH ₂	(R)-CONHMe
217	O	H	(R)-CH ₂ CH(Me) ₂	PhCH ₂	(S)-CONHMe
218	H	H	H	Fmoc	(R)-CO ₂ H
219	H	H	H	Fmoc	(R)-CO ₂ Me
220	H	H	H	Fmoc	(S)-CO ₂ H
221	H	H	H	Fmoc	(S)-CO ₂ Me
222	H	H	(S)-Me	Fmoc	(R)-CO ₂ H
223	H	H	(S)-Me	Fmoc	(R)-CO ₂ Me
224	H	H	(S)-Me	PhCH ₂	(R)-CO ₂ Me
225	H	H	(R)-Me	Fmoc	(R)-CO ₂ H
226	H	H	(R)-Me	Fmoc	(R)-CO ₂ Me
227	H	H	(R)-Me	PhCH ₂	(R)-CO ₂ Me
228	H	H	(S)-Me	Fmoc	(S)-CO ₂ H
229	H	H	(S)-Me	Fmoc	(S)-CO ₂ Me
230	H	H	(S)-Me	PhCH ₂	(S)-CO ₂ Me
231	H	H	(R)-Me	Fmoc	(S)-CO ₂ H
232	H	H	(R)-Me	Fmoc	(S)-CO ₂ Me
233	H	H	(R)-Me	PhCH ₂	(S)-CO ₂ Me
234	H	H	(S)-PhCH ₂	Fmoc	(R)-CO ₂ H
235	H	H	(S)-PhCH ₂	Fmoc	(R)-CO ₂ Me
236	H	H	(S)-PhCH ₂	PhCH ₂	(R)-CO ₂ Me
237	H	H	(R)-PhCH ₂	Fmoc	(R)-CO ₂ H

238	H	H	(R)- PhCH ₂	Fmoc	(R) -CO ₂ Me
239	H	H	(R)- PhCH ₂	PhCH ₂	(R) -CO ₂ Me
240	H	H	(S)- PhCH ₂	Fmoc	(S) -CO ₂ H
241	H	H	(S)- PhCH ₂	Fmoc	(S) -CO ₂ Me
242	H	H	(S)- PhCH ₂	PhCH ₂	(S) -CO ₂ Me
243	H	H	(R)- PhCH ₂	Fmoc	(S) -CO ₂ H
244	H	H	(R)- PhCH ₂	Fmoc	(S) -CO ₂ Me
245	H	H	(R)- PhCH ₂	PhCH ₂	(S) -CO ₂ Me
246	H	H	(R)- CH ₂ OH	Fmoc	(S) -CO ₂ Me
247	H	H	(R)- CH ₂ OH	PhCH ₂	(S) -CO ₂ Me
248	H	H	(R)- CH ₂ OBn	Fmoc	(S) -CO ₂ Me
249	H	H	(R)- CH ₂ OBn	PhCH ₂	(S) -CO ₂ Me
250	H	H	(R)- CH ₂ OH	Fmoc	(R) -CO ₂ Me
251	H	H	(R)- CH ₂ OH	PhCH ₂	(R) -CO ₂ Me
252	H	H	(R)- CH ₂ OBn	Fmoc	(R) -CO ₂ Me
253	H	H	(R)- CH ₂ OBn	PhCH ₂	(R) -CO ₂ Me
254	H	H	(S)- CH ₂ OH	Fmoc	(S) -CO ₂ Me
255	H	H	(S)- CH ₂ OH	PhCH ₂	(S) -CO ₂ Me
256	H	H	(S)- CH ₂ OBn	Fmoc	(S) -CO ₂ Me
257	H	H	(S)- CH ₂ OBn	PhCH ₂	(S) -CO ₂ Me
258	H	H	(S)- CH ₂ OH	Fmoc	(R) -CO ₂ Me
259	H	H	(S)- CH ₂ OH	PhCH ₂	(R) -CO ₂ Me
260	H	H	(S)- CH ₂ OBn	Fmoc	(R) -CO ₂ Me
261	H	H	(S)- CH ₂ OBn	PhCH ₂	(R) -CO ₂ Me
262	H	H	(S)-CH ₂ CH(Me) ₂	Bn	(R) -CO ₂ Me
263	H	H	(R)-CH ₂ CH(Me) ₂	Bn	(R) -CO ₂ Me
264	H	H	(S)-CH ₂ CH(Me) ₂	Bn	(S) -CO ₂ Me
265	H	H	(R)-CH ₂ CH(Me) ₂	Bn	(S) -CO ₂ Me
266	H	H	(S)-CH ₂ CH(Me) ₂	Fmoc	(R) -CO ₂ Me
267	H	H	(R)-CH ₂ CH(Me) ₂	Fmoc	(R) -CO ₂ Me
268	H	H	(S)-CH ₂ CH(Me) ₂	Fmoc	(S) -CO ₂ Me

269	H	H	(R)-CH ₂ CH(Me) ₂	Fmoc	(S)-CO ₂ Me
270	H	H	(S)-Me	H	(R)-CH ₂ OH
271	H	H	(S)-Me	Bn	(R)-CH ₂ OH
272	H	H	(S)-Me	Fmoc	(R)-CH ₂ OH
273	H	H	(R)-Me	H	(R)-CH ₂ OH
274	H	H	(R)-Me	Bn	(R)-CH ₂ OH
275	H	H	(R)-Me	Fmoc	(R)-CH ₂ OH
276	H	H	(S)-Me	H	(S)-CH ₂ OH
277	H	H	(S)-Me	Bn	(S)-CH ₂ OH
278	H	H	(S)-Me	Fmoc	(S)-CH ₂ OH
279	H	H	(R)-Me	H	(S)-CH ₂ OH
280	H	H	(R)-Me	Bn	(S)-CH ₂ OH
281	H	H	(R)-Me	Fmoc	(S)-CH ₂ OH
282	H	H	(S)-CH ₂ CH(Me) ₂	H	(R)-CH ₂ OH
283	H	H	(S)-CH ₂ CH(Me) ₂	Bn	(R)-CH ₂ OH
284	H	H	(S)-CH ₂ CH(Me) ₂	Fmoc	(R)-CH ₂ OH
285	H	H	(R)-CH ₂ CH(Me) ₂	H	(R)-CH ₂ OH
286	H	H	(R)-CH ₂ CH(Me) ₂	Bn	(R)-CH ₂ OH
287	H	H	(R)-CH ₂ CH(Me) ₂	Fmoc	(R)-CH ₂ OH
288	H	H	(S)-CH ₂ CH(Me) ₂	H	(S)-CH ₂ OH
289	H	H	(S)-CH ₂ CH(Me) ₂	Bn	(S)-CH ₂ OH
290	H	H	(S)-CH ₂ CH(Me) ₂	Fmoc	(S)-CH ₂ OH
291	H	H	(R)-CH ₂ CH(Me) ₂	H	(S)-CH ₂ OH
292	H	H	(R)-CH ₂ CH(Me) ₂	Bn	(S)-CH ₂ OH
293	H	H	(R)-CH ₂ CH(Me) ₂	Fmoc	(S)-CH ₂ OH
294	H	H	(S)-PhCH ₂	H	(R)-CH ₂ OH
295	H	H	(S)-PhCH ₂	Bn	(R)-CH ₂ OH
296	H	H	(S)-PhCH ₂	Fmoc	(R)-CH ₂ OH
297	H	H	(R)-PhCH ₂	H	(R)-CH ₂ OH
298	H	H	(R)-PhCH ₂	Bn	(R)-CH ₂ OH
299	H	H	(R)-PhCH ₂	Fmoc	(R)-CH ₂ OH

300	H	H	(S)-PhCH ₂	H	(S)-CH ₂ OH
301	H	H	(S)-PhCH ₂	Bn	(S)-CH ₂ OH
302	H	H	(S)-PhCH ₂	Fmoc	(S)-CH ₂ OH
303	H	H	(R)-PhCH ₂	H	(S)-CH ₂ OH
304	H	H	(R)-PhCH ₂	Bn	(S)-CH ₂ OH
305	H	H	(R)-PhCH ₂	Fmoc	(S)-CH ₂ OH
306	H	H	(R)-CH ₂ OH	Fmoc	(S)-CH ₂ OH
307	H	H	(R)-CH ₂ OH	PhCH ₂	(S)-CH ₂ OH
308	H	H	(R)-CH ₂ O Bn	Fmoc	(S)-CH ₂ OH
309	H	H	(R)-CH ₂ O Bn	PhCH ₂	(S)-CH ₂ OH
310	H	H	(R)-CH ₂ OH	Fmoc	(R)-CH ₂ OH
311	H	H	(R)-CH ₂ OH	PhCH ₂	(R)-CH ₂ OH
312	H	H	(R)-CH ₂ O Bn	Fmoc	(R)-CH ₂ OH
313	H	H	(R)-CH ₂ O Bn	PhCH ₂	(R)-CH ₂ OH
314	H	H	(S)-CH ₂ OH	Fmoc	(S)-CH ₂ OH
315	H	H	(S)-CH ₂ OH	PhCH ₂	(S)-CH ₂ OH
316	H	H	(S)-CH ₂ O Bn	Fmoc	(S)-CH ₂ OH
317	H	H	(S)-CH ₂ O Bn	PhCH ₂	(S)-CH ₂ OH
318	H	H	(S)-CH ₂ OH	Fmoc	(R)-CH ₂ OH
319	H	H	(S)-CH ₂ OH	PhCH ₂	(R)-CH ₂ OH
320	H	H	(S)-CH ₂ O Bn	Fmoc	(R)-CH ₂ OH
321	H	H	(S)-CH ₂ O Bn	PhCH ₂	(R)-CH ₂ OH

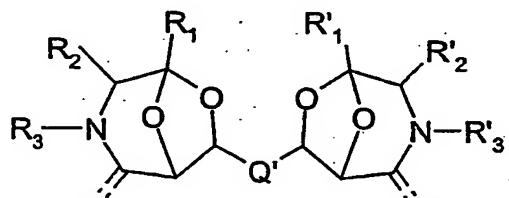


Compound	R ₁	R ₂	R ₃	R' ₁	R' ₂	R ₆
322	H	H	H	H	H	CO ₂ Me
323	H	H	H	H	H	CONHMe

324	H	H	PhCH ₂	H	H	CO ₂ Me
325	H	H	PhCH ₂	H	H	CONHMe
326	H	H	Fmoc	H	H	CO ₂ Me
327	H	H	Fmoc	H	H	CONHMe
328	H	H	Boc	H	H	CO ₂ Me
329	H	H	Boc	H	H	CONHMe
330	H	PhCH ₂	H	H	H	CO ₂ Me
331	H	PhCH ₂	H	H	H	CONHMe
332	H	PhCH ₂	PhCH ₂	H	H	CO ₂ Me
333	H	PhCH ₂	PhCH ₂	H	H	CONHMe
334	H	PhCH ₂	Fmoc	H	H	CO ₂ Me
335	H	PhCH ₂	Fmoc	H	H	CONHMe
336	H	PhCH ₂	Boc	H	H	CO ₂ Me
337	H	PhCH ₂	Boc	H	H	CONHMe
338	H	H	H	H	PhCH ₂	CO ₂ Me
339	H	H	H	H	PhCH ₂	CONHMe
340	H	H	PhCH ₂	H	PhCH ₂	CO ₂ Me
341	H	H	PhCH ₂	H	PhCH ₂	CONHMe
342	H	H	Fmoc	H	PhCH ₂	CO ₂ Me
343	H	H	Fmoc	H	PhCH ₂	CONHMe
344	H	H	Boc	H	PhCH ₂	CO ₂ Me
345	H	H	Boc	H	PhCH ₂	CONHMe
346	H	PhCH ₂	H	H	PhCH ₂	CO ₂ Me
347	H	PhCH ₂	H	H	PhCH ₂	CONHMe
348	H	PhCH ₂	PhCH ₂	H	PhCH ₂	CO ₂ Me
349	H	PhCH ₂	PhCH ₂	H	PhCH ₂	CONHMe
350	H	PhCH ₂	Fmoc	H	PhCH ₂	CO ₂ Me
351	H	PhCH ₂	Fmoc	H	PhCH ₂	CONHMe
352	H	PhCH ₂	Boc	H	PhCH ₂	CO ₂ Me
353	H	PhCH ₂	Boc	H	PhCH ₂	CONHMe
354	Ph	H	H	H	H	CO ₂ Me

355	Ph	H	H	H	H	CONHMe
356	Ph	H	PhCH ₂	H	H	CO ₂ Me
357	Ph	H	PhCH ₂	H	H	CONHMe
358	Ph	H	Fmoc	H	H	CO ₂ Me
359	Ph	H	Fmoc	H	H	CONHMe
360	Ph	H	Boc	H	H	CO ₂ Me
361	Ph	H	Boc	H	H	CONHMe
362	H	H	H	Ph	H	CO ₂ Me
363	H	H	H	Ph	H	CONHMe
364	H	H	PhCH ₂	Ph	H	CO ₂ Me
365	H	H	PhCH ₂	Ph	H	CONHMe
366	H	H	Fmoc	Ph	H	CO ₂ Me
367	H	H	Fmoc	Ph	H	CONHMe
368	H	H	Boc	Ph	H	CO ₂ Me
369	H	H	Boc	Ph	H	CONHMe
370	Ph	H	H	Ph	H	CO ₂ Me
371	Ph	H	H	Ph	H	CONHMe
372	Ph	H	PhCH ₂	Ph	H	CO ₂ Me
373	Ph	H	PhCH ₂	Ph	H	CONHMe
374	Ph	H	Fmoc	Ph	H	CO ₂ Me
375	Ph	H	Fmoc	Ph	H	CONHMe
376	Ph	H	Boc	Ph	H	CO ₂ Me
377	Ph	H	Boc	Ph	H	CONHMe
378	H	H	H	H	CH ₂ OH	CO ₂ Me
379	H	H	H	H	CH ₂ OH	CONHMe
380	H	H	PhCH ₂	H	CH ₂ OH	CO ₂ Me
381	H	H	PhCH ₂	H	CH ₂ OH	CONHMe
382	H	H	Fmoc	H	CH ₂ OH	CO ₂ Me
383	H	H	Fmoc	H	CH ₂ OH	CONHMe
384	H	H	Boc	H	CH ₂ OH	CO ₂ Me
385	H	H	Boc	H	CH ₂ OH	CONHMe

386	H	PhCH ₂	H	H	CH ₂ OH	CO ₂ Me
387	H	PhCH ₂	H	H	CH ₂ OH	CONHMe
388	H	PhCH ₂	PhCH ₂	H	CH ₂ OH	CO ₂ Me
389	H	PhCH ₂	PhCH ₂	H	CH ₂ OH	CONHMe
390	H	PhCH ₂	Fmoc	H	CH ₂ OH	CO ₂ Me
391	H	PhCH ₂	Fmoc	H	CH ₂ OH	CONHMe
392	H	PhCH ₂	Boc	H	CH ₂ OH	CO ₂ Me
393	H	PhCH ₂	Boc	H	CH ₂ OH	CONHMe
394	Ph	H	H	H	CH ₂ OH	CO ₂ Me
395	Ph	H	H	H	CH ₂ OH	CONHMe
396	Ph	H	PhCH ₂	H	CH ₂ OH	CO ₂ Me
397	Ph	H	PhCH ₂	H	CH ₂ OH	CONHMe
398	Ph	H	Fmoc	H	CH ₂ OH	CO ₂ Me
399	Ph	H	Fmoc	H	CH ₂ OH	CONHMe
400	Ph	H	Boc	H	CH ₂ OH	CO ₂ Me
401	Ph	H	Boc	H	CH ₂ OH	CONHMe



(III)

Compound	R ₁	R ₂	R ₃	R' ₁	R' ₂	R ₃	X	Q'
402	H	H	H	H	H	H	O	CO-NH(CH ₂) ₂ NH-CO
403	H	H	H	H	H	H	O	CO-NH(CH ₂) ₄ NH-CO
404	H	H	H	H	H	H	O	CO-NH(CH ₂) ₆ NH-CO
405	H	H	H	H	H	H	O	CO-N(C ₂ H ₄)N-CO
406	H	H	PhCH ₂	H	H	PhCH ₂	O	CO-NH(CH ₂) ₂ NH-CO
407	H	H	PhCH ₂	H	H	PhCH ₂	O	CO-NH(CH ₂) ₄ NH-CO
408	H	H	PhCH ₂	H	H	PhCH ₂	O	CO-NH(CH ₂) ₆ NH-CO

409	H	H	PhCH ₂	H	H	PhCH ₂	O	CO-N(C ₂ H ₄)N-CO
410	H	H	PhCH ₂	H	H	PhCH ₂	H	CO-NH(CH ₂) ₂ NH-CO
411	H	H	PhCH ₂	H	H	PhCH ₂	H	CO-NH(CH ₂) ₄ NH-CO
412	H	H	PhCH ₂	H	H	PhCH ₂	H	CO-NH(CH ₂) ₆ NH-CO
413	H	H	PhCH ₂	H	H	PhCH ₂	H	CO-N(C ₂ H ₄)N-CO
414	H	PhCH ₂	PhCH ₂	H	PhCH ₂	PhCH ₂	O	CO-NH(CH ₂) ₂ NH-CO
415	H	PhCH ₂	PhCH ₂	H	PhCH ₂	PhCH ₂	O	CO-NH(CH ₂) ₄ NH-CO
416	H	PhCH ₂	PhCH ₂	H	PhCH ₂	PhCH ₂	O	CO-NH(CH ₂) ₆ NH-CO
417	H	PhCH ₂	PhCH ₂	H	PhCH ₂	PhCH ₂	O	CO-N(C ₂ H ₄)N-CO
418	H	PhCH ₂	PhCH ₂	H	PhCH ₂	PhCH ₂	H	CO-NH(CH ₂) ₂ NH-CO
419	H	PhCH ₂	PhCH ₂	H	PhCH ₂	PhCH ₂	H	CO-NH(CH ₂) ₄ NH-CO
420	H	PhCH ₂	PhCH ₂	H	PhCH ₂	PhCH ₂	H	CO-NH(CH ₂) ₆ NH-CO
421	H	PhCH ₂	PhCH ₂	H	PhCH ₂	PhCH ₂	H	CO-N(C ₂ H ₄)N-CO
422	Ph	H	PhCH ₂	Ph	H	PhCH ₂	O	CO-NH(CH ₂) ₂ NH-CO
423	Ph	H	PhCH ₂	Ph	H	PhCH ₂	O	CO-NH(CH ₂) ₄ NH-CO
424	Ph	H	PhCH ₂	Ph	H	PhCH ₂	O	CO-NH(CH ₂) ₆ NH-CO
425	Ph	H	PhCH ₂	Ph	H	PhCH ₂	O	CO-N(C ₂ H ₄)N-CO
426	Ph	H	PhCH ₂	Ph	H	PhCH ₂	H	CO-NH(CH ₂) ₂ NH-CO
427	Ph	H	PhCH ₂	Ph	H	PhCH ₂	H	CO-NH(CH ₂) ₄ NH-CO
428	Ph	H	PhCH ₂	Ph	H	PhCH ₂	H	CO-NH(CH ₂) ₆ NH-CO
429	Ph	H	PhCH ₂	Ph	H	PhCH ₂	H	CO-N(C ₂ H ₄)N-CO
430	Ph	H	PhCH ₂	Ph	H	PhCH ₂	H	CO-NH(CH ₂) ₂ NH-CO
431	Ph	H	PhCH ₂	Ph	H	PhCH ₂	H	CO-NH(CH ₂) ₄ NH-CO
432	Ph	H	PhCH ₂	Ph	H	PhCH ₂	H	CO-NH(CH ₂) ₆ NH-CO
433	Ph	H	PhCH ₂	Ph	H	PhCH ₂	H	CO-N(C ₂ H ₄)N-CO
434	Ph	H	Ph	Ph	H	Ph	O	CO-NH(CH ₂) ₂ NH-CO
435	Ph	H	Ph	Ph	H	Ph	O	CO-NH(CH ₂) ₄ NH-CO
436	Ph	H	Ph	Ph	H	Ph	O	CO-NH(CH ₂) ₆ NH-CO
437	Ph	H	Ph	Ph	H	Ph	O	CO-N(C ₂ H ₄)N-CO
438	NO ₂ -Ph	H	Ph	NO ₂ -Ph	H	Ph	O	CO-NH(CH ₂) ₂ NH-CO
439	NO ₂ -Ph	H	Ph	NO ₂ -Ph	H	Ph	O	CO-NH(CH ₂) ₃ NH-CO

440	NO ₂ -Ph	H	Ph	NO ₂ -Ph	H	Ph	O	CO-NH(CH ₂) ₄ NH-CO
441	NO ₂ -Ph	H	Ph	NO ₂ -Ph	H	Ph	O	CO-NH(CH ₂) ₅ NH-CO
442	NO ₂ -Ph	H	Ph	NO ₂ -Ph	H	Ph	O	CO-NH(CH ₂) ₆ NH-CO
443	NO ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	O	CO-N(C ₂ H ₄)N-CO
444	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	O	CO-NH(CH ₂) ₂ NH-CO
445	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	O	CO-NH(CH ₂) ₃ NH-CO
446	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	O	CO-NH(CH ₂) ₄ NH-CO
447	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	O	CO-NH(CH ₂) ₅ NH-CO
448	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	O	CO-NH(CH ₂) ₆ NH-CO
449	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	O	CO-N(C ₂ H ₄)N-CO
450	NO ₂ -Ph	H	Ph	NO ₂ -Ph	H	Ph	H	CO-NH(CH ₂) ₂ NH-CO
451	NO ₂ -Ph	H	Ph	NO ₂ -Ph	H	Ph	H	CO-NH(CH ₂) ₃ NH-CO
452	NO ₂ -Ph	H	Ph	NO ₂ -Ph	H	Ph	H	CO-NH(CH ₂) ₄ NH-CO
453	NO ₂ -Ph	H	Ph	NO ₂ -Ph	H	Ph	H	CO-NH(CH ₂) ₅ NH-CO
454	NO ₂ -Ph	H	Ph	NO ₂ -Ph	H	Ph	H	CO-NH(CH ₂) ₆ NH-CO
455	NO ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	H	CO-N(C ₂ H ₄)N-CO
456	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	H	CO-NH(CH ₂) ₂ NH-CO
457	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	H	CO-NH(CH ₂) ₃ NH-CO
458	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	H	CO-NH(CH ₂) ₄ NH-CO
459	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	H	CO-NH(CH ₂) ₅ NH-CO
460	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	H	CO-NH(CH ₂) ₆ NH-CO
461	NH ₂ -Ph	H	Ph	NH ₂ -Ph	H	Ph	H	CO-N(C ₂ H ₄)N-CO

5. The pharmaceutical composition according to claims 1-4, further comprising pharmaceutically acceptable excipients and/or diluents.

6. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers or formula (II) or (III), and mixtures thereof as defined in claims 1-4, for the preparation of pharmaceutical compositions for the treatment of:

i) neurodegenerative, inflammatory, toxic, traumatic, or vascular disorders of the central, peripheral, or autonomic nervous system, neural damages secondary to hypoxia, ischaemia, burns, chemotherapy, toxic compounds of various origin (including alcohol), infections, trauma (including surgical trauma) originating

axotomy of motoneurons, sensorial, motor, or sensorimotor neuropathies, or autonomic dysfunctions secondary to diverse pathologies, genetic disorders, nervous pathologies of diverse origin, some ocular pathologies, corneal diseases of diverse origin, pathologies from reduced motility of the gastro-intestinal tract or from urinary bladder atony, endocrine neoplastic pathologies, clinical conditions in which stimulation of learning processes is advantageous, and all pathological conditions originating from apoptotic processes of neural cells;

5 ii) acquired immunodeficiency diseases due to reduced or absent bioavailability of NGF;

10 iii) conditions in which stimulation of neoangiogenesis may be advantageous;

15 iv) certain ocular pathologies.

7. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III) and mixtures thereof according to claim 6, in which said neurodegenerative, inflammatory, toxic, traumatic, or vascular disorders of the central, peripheral, or autonomic nervous system are selected from Alzheimer Disease (AD), Amyotrophic Lateral Sclerosis (ALS), Huntington disease, multiple sclerosis, epilepsy, Down syndrome, nervous deafness and Ménière's disease.

20 8. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III) and mixtures thereof according to claim 6, in which said neural damages secondary to infections are selected from polio and HIV virus.

25 9. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III) and mixtures thereof according to claim 6, in which said genetic disorders are selected from Charcot-Marie-Tooth disease, Refsum disease, abetalipoproteinemia, Tangier disease, Krabbe disease, metachromatic leukodystrophy, Fabry disease, Dejerine-Sottas disease.

30 10. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III) and mixtures thereof according to claim 6, in which said nervous pathologies of diverse origin are selected from diffuse atrophy of cerebral cortex, Lewy body dementia, Pick's disease, mesolimbocortical dementia, neuronal ceroid lipofuscinosis, thalamic degeneration, cortico-striatal-spinal degeneration, cortico-basal ganglionic degeneration, cerebro-cerebellar degeneration, familial dementia with spastic paraparesis, polyglucosan bodies disease, Shy-Drager syndrome,

olivopontocerebellar atrophy, progressive supranuclear palsy, deforming muscular dystony, Hallervorden-Spatz disease, Meige's syndrome, familial shivering, Gilles de la Tourette syndrome, chorea-acanthocytosis syndrome, Friedreich's ataxia, Holmes' corticocerebellar familial atrophy, Gerstmann-Straussler-Scheinker disease, progressive spinal muscular atrophy, spastic paraplegia, peroneal muscular atrophy, hypertrophic interstitial polyneuropathy and polyneuritic ataxic heredopathy.

11. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III) and mixtures thereof according to claim 6, in which said ocular pathologies are selected from optic nerve neuropathies, retinal degeneration, ophtalmoplegy and glaucoma; and said corneal diseases of diverse origin are selected from neurotrophic ulcers, post-traumatic and post-infective corneal disorders.

12. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III) and mixtures thereof according to claim 6, in which said pathologies from reduced motility of the gastro-intestinal tract or from urinary bladder atony are selected from interstitial cystitis and diabetic cystitis.

13. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III) and mixtures thereof according to claim 6, in which said conditions in which stimulation of neoangiogenesis may be advantageous are selected from myocardial infarction, stroke, cerebral aneurysms, gastro-duodenal ulcers, wound healing and peripheral vasculopathies.

14. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III) and mixtures thereof according to claim 6, in which said acquired immunodeficiency disease is immunodeficiency of ageing.

15. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III) and mixtures thereof as defined in claims 1-4, as reagents for promoting growth-and/or *in-vivo*, *in-vitro*-or *ex-vivo* survival of neuronal cells.

16. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III), and mixtures thereof according to claim 15, wherein said neural cells are selected from the group consisting of dopaminergic, cholinergic, sensorial neurons, striatal cells, cortical cells, cells of the corpus striatum, hippocampus,

cerebellum, olfactory bulbs, peri-aqueductal cells, cells of the raphe nuclei, of the locus coeruleus, of the dorsal root ganglia, sympathetic neurons, lower motoneurons, nervous stem cells, and cells anyhow deriving from the neural plaque.

5 17. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III), and mixtures thereof as defined in claims 1-4, for the preparation of culture and storage media useful for conservation of explanted corneas destined to transplantation.

10 18. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III), and mixtures thereof as defined in claims 1-4, labelled with suitable reagents (contrast agents, radioisotopes, fluorescent agents etc.); and possibly processed with procedures useful for medical imaging purposes, in the imaging analysis of tissues and organs containing neurotrophine receptors.

15 19. Use of 3-aza-bicyclo[3.2.1]octane derivatives of formula (I), their dimers of formula (II) or (III), and mixtures thereof according to claim 18, for monitoring the use and efficacy of drugs or for the diagnosis of mammal diseases in which the neurotrophine receptors are involved.

20 20. The 3-aza-bicyclo[3.2.1]octane derivatives of formula (I) and their dimers of formula (II) and (III) as defined in claim 1, with the exclusion of the compounds indicated by the following numbers:

1,2,5,7,8,9,10,12,13,17,19,20,21,32,34,35,36,38,40,44,58,60,64,65,66,70,75,76,
77,78,79,83,87,91,95,99,101,103,138,145,152,154,163,164,168,172,174,176,178,
184,186,192,322,324,

and as defined in claim 4.

25 21. The 3-aza-bicyclo[3.2.1]octane derivatives of formula (I) and their dimers of formula (II) and (III) according to claim 20, selected from the compounds indicated by the following numbers:

3,4,6,11,14-16,18,22-31,33,37,39,41-43,45-57,59,61-63,67-69,71-74,80-82,84-
86,88-90,92-94,96-98,100,102,104-137,139-144,146-151,153,155-162,165-

30 167,169-171,173,175,177,179-183,185,187-191,193-321,323,325-461,
and as defined in claim 4.